



## Heat waves and climate change: Applying the health belief model to identify predictors of risk perception and adaptive behaviours in Adelaide, Australia

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### Abstract:

Heat waves are considered a health risk and they are likely to increase in frequency, intensity and duration as a consequence of climate change. The effects of heat waves on human health could be reduced if individuals recognise the risks and adopt healthy behaviours during a heat wave. The purpose of this study was to determine the predictors of risk perception using a heat wave scenario and identify the constructs of the health belief model that could predict adaptive behaviours during a heat wave. A cross-sectional study was conducted during the summer of 2012 among a sample of persons aged between 30 to 69 years in Adelaide. Participants' perceptions were assessed using the health belief model as a conceptual frame. Their knowledge about heat waves and adaptive behaviours during heat waves was also assessed. Logistic regression analyses were performed to determine the predictors of risk perception to a heat wave scenario and adaptive behaviours during a heat wave. Of the 267 participants, about half (50.9%) had a high risk perception to heat waves while 82.8% had good adaptive behaviours during a heat wave. Multivariate models found that age was a significant predictor of risk perception. In addition, participants who were married (OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 0.21; 95% CI, 0.07-0.62), who earned a gross annual household income of >Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin)\$ 60,000 (OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 0.41; 95% CI, 0.17-0.94) and without a fan (OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 0.29; 95% CI, 0.11-0.79) were less likely to have a high risk perception to heat waves. Those who were living with others (OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.87; 95% CI, 1.19-6.90) were more likely to have a high risk perception to heat waves. On the other hand, participants with a high perceived benefit (OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.14; 95% CI, 1.00-4.58), a high "cues to action" (OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 3.71; 95% CI, 1.63-8.43), who had additional training or education after high school (OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.65; 95% CI, 1.25-5.58) and who earned a gross annual household income of >Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin)\$ 60,000 (OR Euro Surveillance (Bulletin European Sur Les Maladies Transmissibles; European Communicable Disease Bulletin) 2.66; 95% CI, 1.07-6.56) were more likely to have good adaptive behaviours during a heat wave. The health belief model could be useful to guide the design and implementation of interventions to promote adaptive behaviours during heat waves.

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## Resource Description

### **Communication:** ☒

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

### **Communication Audience:** ☒

audience to whom the resource is directed

Public

### **Exposure :** ☒

weather or climate related pathway by which climate change affects health

Temperature

**Temperature:** Extreme Heat

### **Geographic Feature:** ☒

resource focuses on specific type of geography

None or Unspecified

### **Geographic Location:** ☒

resource focuses on specific location

Non-United States

**Non-United States:** Australasia

### **Health Impact:** ☒

specification of health effect or disease related to climate change exposure

General Health Impact

### **Mitigation/Adaptation:** ☒

mitigation or adaptation strategy is a focus of resource

Adaptation

### **Model/Methodology:** ☒

type of model used or methodology development is a focus of resource

Methodology

### **Population of Concern:** A focus of content

**Other Vulnerable Population:** unmarried;people who do not own a fan

# Climate Change and Human Health Literature Portal

## **Resource Type:**

format or standard characteristic of resource

Research Article

## **Resilience:**

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

## **Timescale:**

time period studied

Time Scale Unspecified

## **Vulnerability/Impact Assessment:**

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content